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Docket Nos. 50-443/444

MEMORANDUM FOR: Thomas M. Novak, Assistant Director  
for Licensing, DL

FROM: Daniel R. Muller, Assistant Director  
for Radiation Protection, DSI

SUBJECT: METB INPUT FOR SUPPLEMENT TO SEABROOK SER

Attached is input from the Effluent Treatment Systems Section, METB, which covers the turbine gland seal condenser exhaust monitoring requirements for Seabrook. This input should be included in Section 11.5 of the next supplement to the Seabrook SER. If there are any questions contact J. Hayes (x27649) who is the cognizant reviewer for Seabrook.

Original signed by:

William P. Gammill

for

Daniel R. Muller, Assistant Director  
for Radiation Protection  
Division of Systems Integration

Attachment:  
As stated

cc: R. Mattson  
W. Gammill  
G. Knighton  
L. Wheeler  
A. Vietti  
C. Willis  
J. Hayes

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OFFICE	DSI:RP:METB	DSI:RP:METB	DSI:RP:METB	DSI:RP:METB			
SURNAME	J. Hayes	C. Willis	W.P. Gammill	J.R. Muller			
DATE	06/06/83	06/6/83	06/7/83	06/7/83			

METB INPUT FOR SUPPLEMENT TO SEABROOK SER  
SECTION 11.5

In the initial SER (NUREG-0896), it was indicated that the discharge from the turbine gland seal condenser was not monitored in accordance with SRP 11.5 of NUREG-0800. It was also indicated that the applicant had committed to either divert the discharge from turbine gland seal condenser to the plant vent or to install a monitor. The applicant indicated in a later submittal that there was no practical way to direct the turbine gland seal vent exhausts to the plant vent and provided calculations to show why no radiation monitor needed to be installed.

As a result of numerous meetings between the applicant and the staff, a resolution of this item has been reached. The turbine gland seal condenser exhaust will be sampled for radioiodines and particulates on a continuous basis. The main condenser air evacuation monitor will be utilized to provide the trend of noble gas concentration changes in the turbine gland seal condenser exhaust and the main condenser air evacuation exhaust will be sampled to provide the isotopic breakdown of specific radionuclides. No noble gas monitor will be provided on the turbine gland seal condenser exhaust.

The staff finds that it is acceptable not to monitor noble gases from the turbine gland seal condenser exhaust because the quantity of noble gases released from this source during normal operation is probably less than 0.1 curie per year per unit and the release of noble gases resulting from a steam generator tube rupture accident would probably be less than 10 curies. These releases would be inconsequential from both a dose standpoint and from a total release standpoint for either

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normal releases or accident conditions. In addition, the concentration of noble gases in the main condenser air evacuation exhaust would be representative of the concentration in the turbine gland seal condenser exhaust and the releases from the main condenser will be much larger than those from the gland seal. The main condenser air evacuation monitor will provide representative indication of the fluctuation in concentrations of noble gases. Seabrook will have technical specifications on the main condenser air evacuation exhaust just as if it were an effluent release point. These specifications will indicate the frequency for sampling and analyzing the exhaust from the main condenser air evacuation. The applicant will also be required to provide in the Offsite Dose Calculation Manual (ODCM) the methodology for calculating the releases from the turbine gland seal condenser exhaust, based upon activity measured at the main condenser air evacuation exhaust and in the Emergency Preparedness Implementation Procedures (EPIP). Both documents must be approved by the staff.

The staff was initially concerned that, during a period of startup and shutdown, the turbine gland seal exhaust would be discharged while no discharge would be occurring from the main condenser evacuation exhaust. Thus, no correlation could be made as to the turbine gland seal exhaust noble gas release. The applicant has indicated in a submittal to the staff that, during startup prior to establishing vacuum on the condenser, and at shutdown, shortly after breaking vacuum, the steam for the turbine gland seal steam is provided by the auxiliary boiler. Therefore, radioactive releases would not occur at that time from the turbine gland seal condenser.

With the elimination of this concern, the staff finds the applicant's proposed method for monitoring radioiodines and particulates from the turbine gland seal condenser exhaust and for projecting noble gas releases, acceptable. Final approval will be granted only after review of the methodology to be utilized to calculate releases in the ODCM and the EPIP is completed and approved.

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